SQL Data Export for PS/PSS

Version 2.3.5

USER MANUAL

(M98232701-03-13B)

© CIRCUTOR, SA

INDEX

1.- SQL DATA EXPORT SOFTWARE INSTALLATION 3

1.1.- ENABLE REMOTE CONNECTIONS OF THE SQL SERVER 14
1.2.- UNINSTALL SQL SERVER 16

2.- INTRODUCTION TO SQL DATA EXPORT 17

2.1.- GRAPHIC INTERFACE 17

3.- APPENDICES 24

3.1.- CHANGE THE LOCATION OF THE DATABASE 24
3.2.- STRUCTURE OF THE DATABASE 27

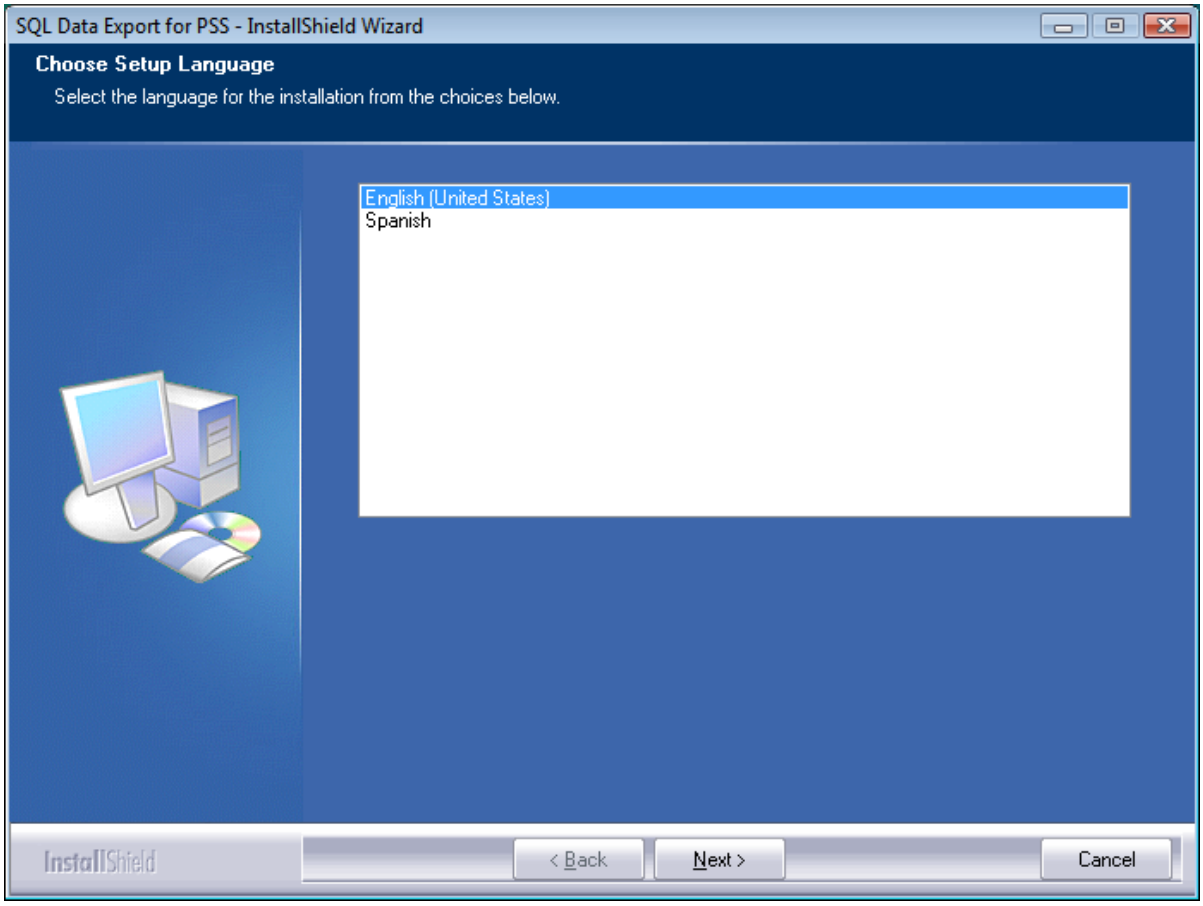
1.- SQL Data Export software installation

The minimum necessary requirements for SQL Data Export to work properly on your PC are:

Windows 2000 SP4. Windows 2003 Server SP1, Windows XP SP2, Windows Vista or Windows 7.

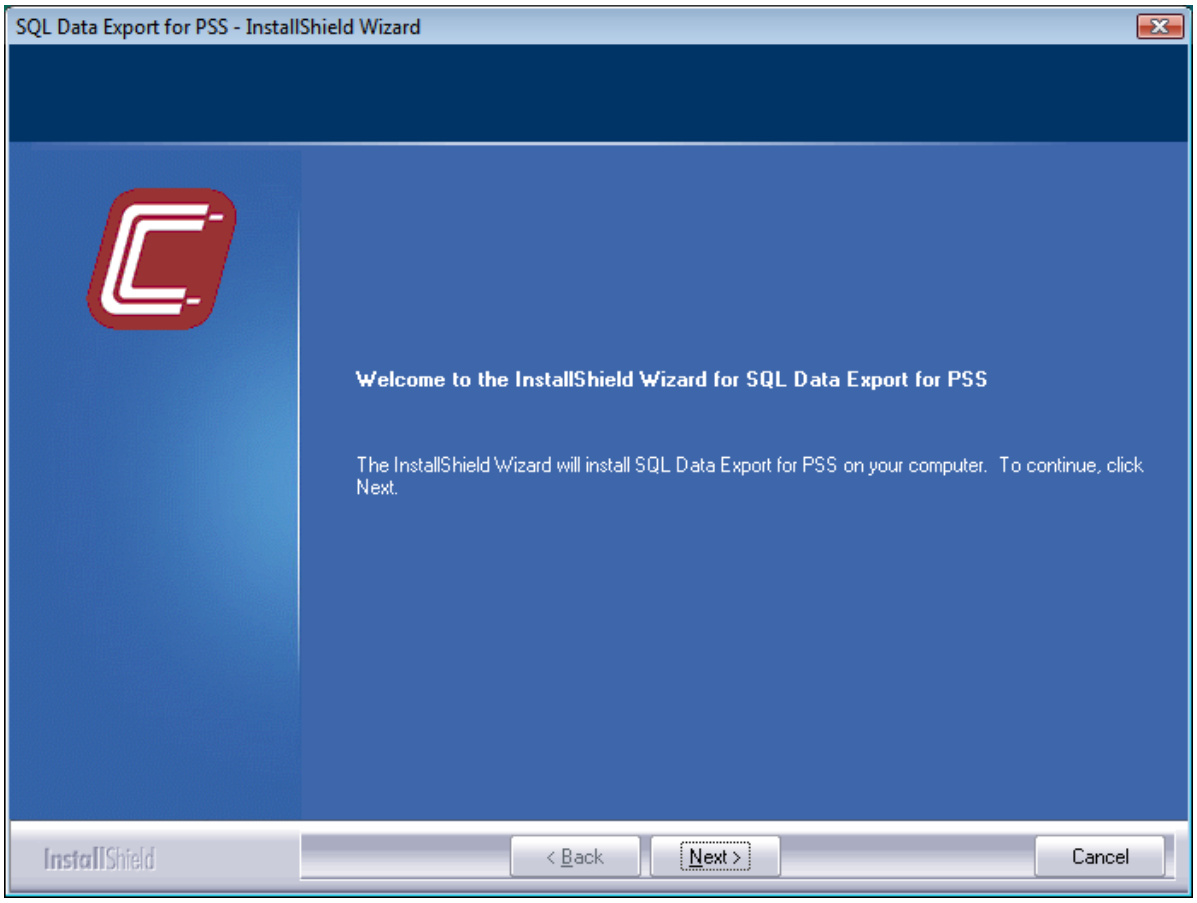
PowerStudio/PowerStudio Scada version 3.0.1 or higher.

When the SQL Data Export installation starts a dialogue window will appear to select the installation language.



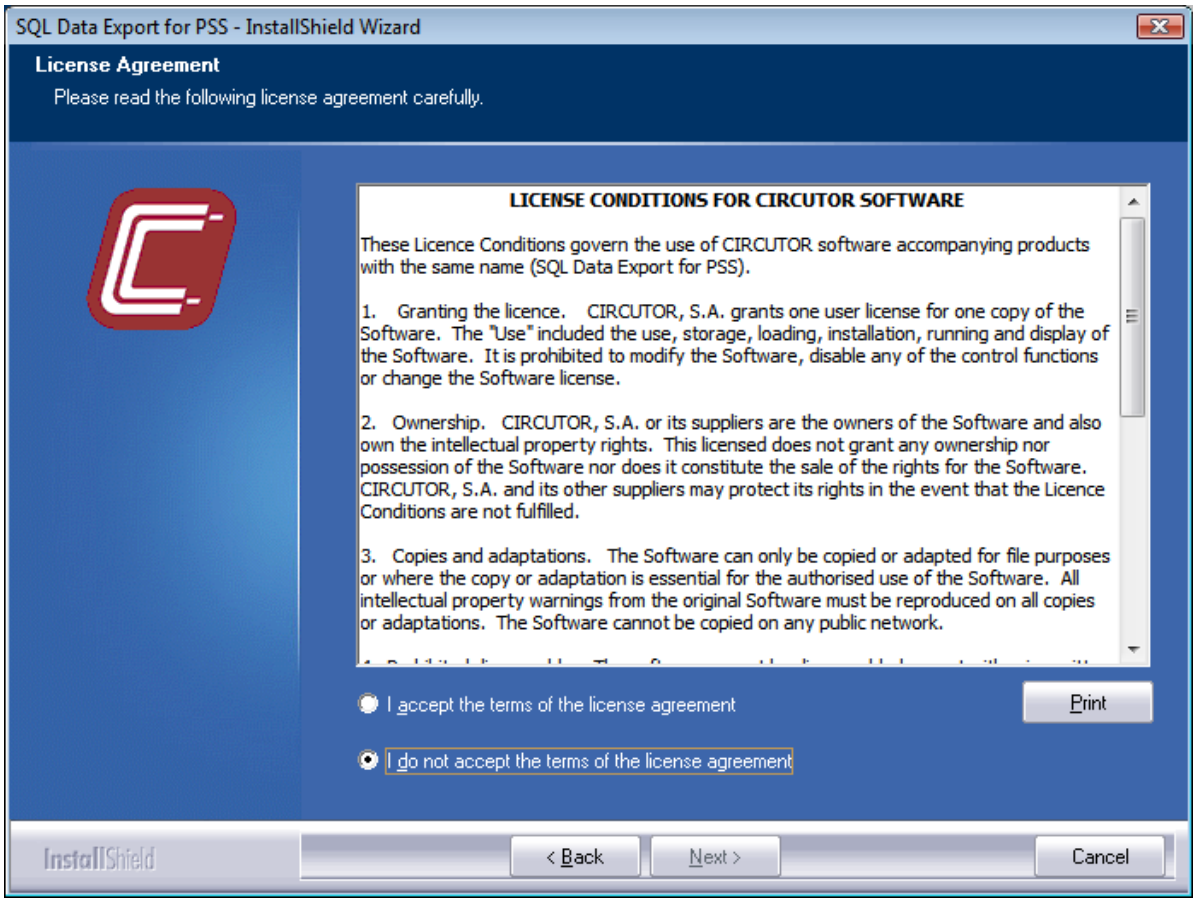
Installation language

After selection of the language when the "***Next***" button is pressed a presentation screen appears.


SQL Data Export for PSS - InstallShield Wizard
Welcome to the InstallShield Wizard for SQL Data Export for PSS
The InstallShield Wizard will install SQL Data Export for PSS on your computer. To continue, click Next.
InstallShield
< Back
Next >
Cancel

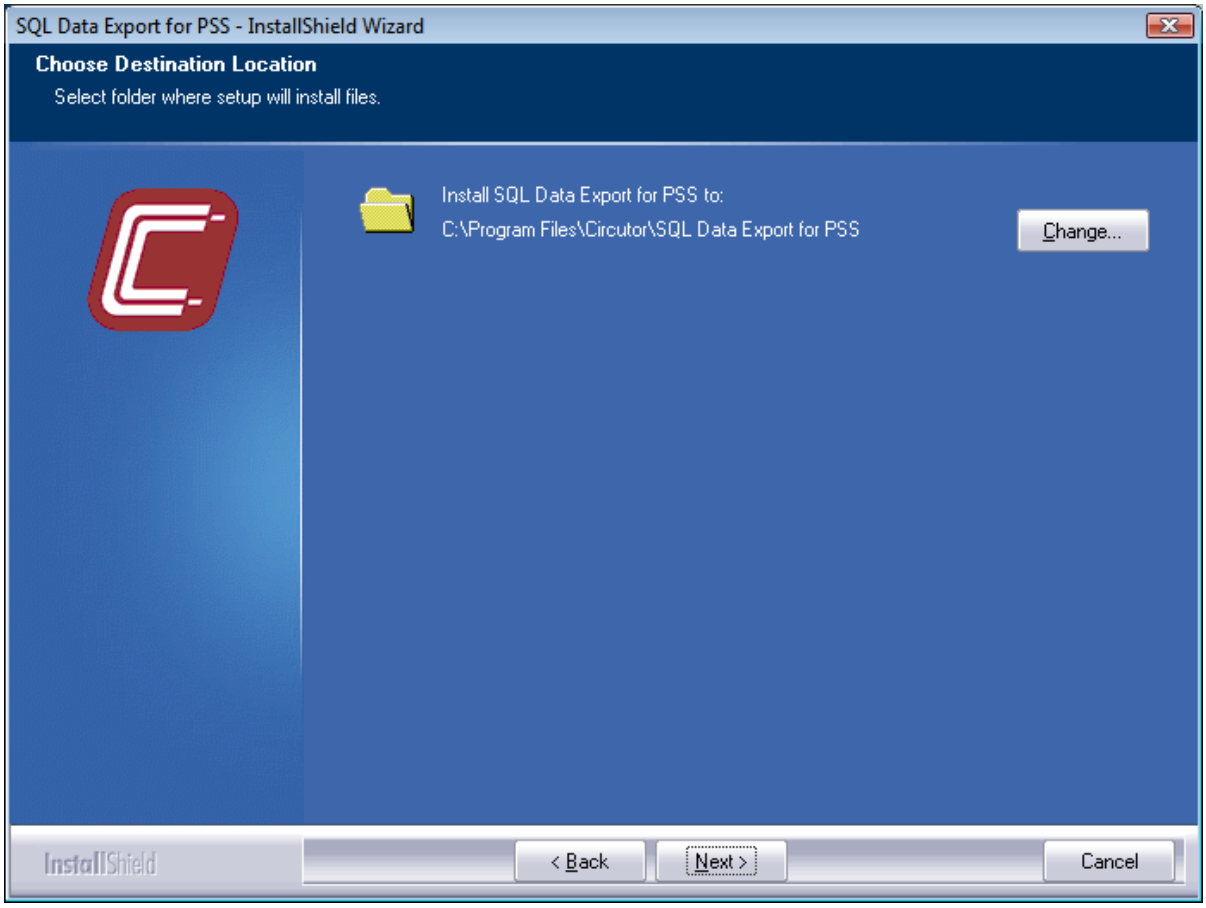
Welcome screen

After pressing the "***Next***" button the license screen is accessed where we must accept its terms to continue.


SQL Data Export for PSS - InstallShield Wizard
License Agreement
Please read the following license agreement carefully.
LICENSE CONDITIONS FOR CIRCUTOR SOFTWARE
These Licence Conditions govern the use of CIRCUTOR software accompanying products with the same name (SQL Data Export for PSS).
1. Granting the licence. CIRCUTOR, S.A. grants one user license for one copy of the Software. The "Use" included the use, storage, loading, installation, running and display of the Software. It is prohibited to modify the Software, disable any of the control functions or change the Software license.
2. Ownership. CIRCUTOR, S.A. or its suppliers are the owners of the Software and also own the intellectual property rights. This licensed does not grant any ownership nor possession of the Software nor does it constitute the sale of the rights for the Software. CIRCUTOR, S.A. and its other suppliers may protect its rights in the event that the Licence Conditions are not fulfilled.
3. Copies and adaptations. The Software can only be copied or adapted for file purposes or where the copy or adaptation is essential for the authorised use of the Software. All intellectual property warnings from the original Software must be reproduced on all copies or adaptations. The Software cannot be copied on any public network.
I accept the terms of the license agreement
I do not accept the terms of the license agreement
Print
InstallShield
< Back
Next >
Cancel

License terms

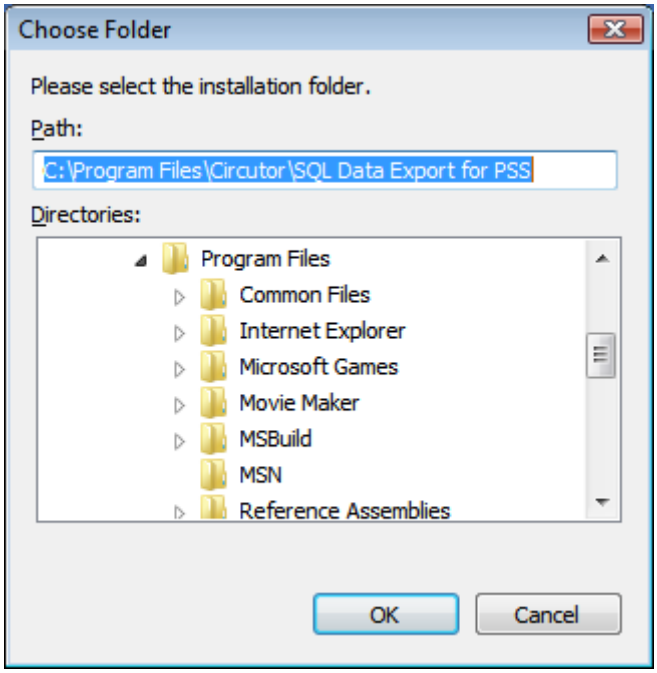
After completing the installation preparation process a dialogue will appear where you will be asked for the application installation directory.


SQL Data Export for PSS - InstallShield Wizard
Choose Destination Location
Select folder where setup will install files.
Install SQL Data Export for PSS to:
C:\Program Files\Circutor\SQL Data Export for PSS
Change...
InstallShield
< Back
Next >
Cancel

Selection dialogue for the installation folder

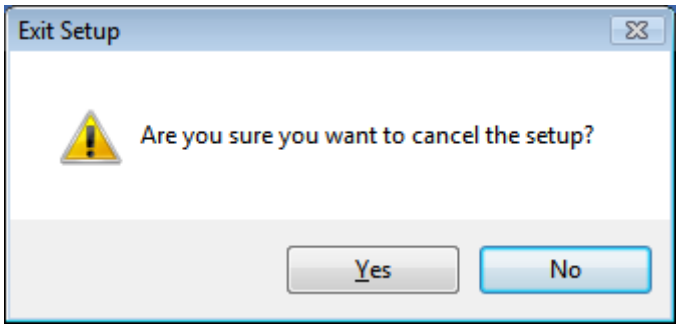
Here you may select the directory in which to install the application. As you will see, the installation program proposes a destination directory for the application, which you can change by pressing the "***Next***" button.

If you press this button, a dialogue box will appear where you may choose the new application installation directory.



Selection dialogue for the new installation folder

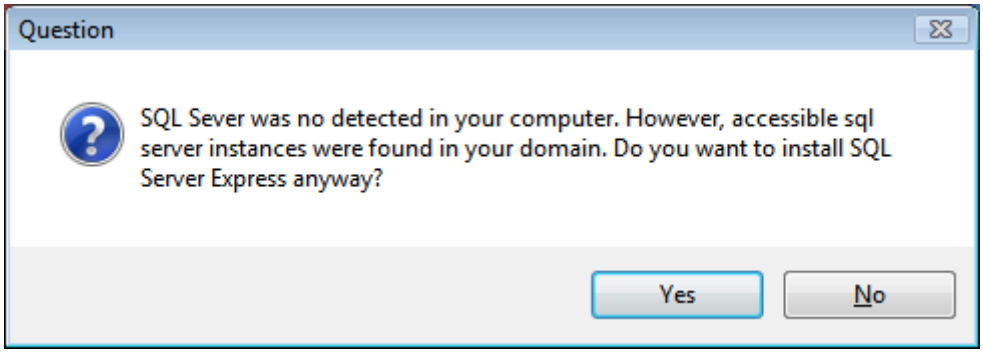
Once the application destination directory has been entered you may pass on to the next screen by pressing the "***Next***" button. Note that at any time you may exit the installation by pressing the "***Cancel***" button on the screens that provide it. If you choose this option a confirmation message as follows will appear:



Confirmation message for quitting the installation

If you choose "***No***" the installation will continue from the point where it was left off, otherwise you will quit the installation without saving anything.

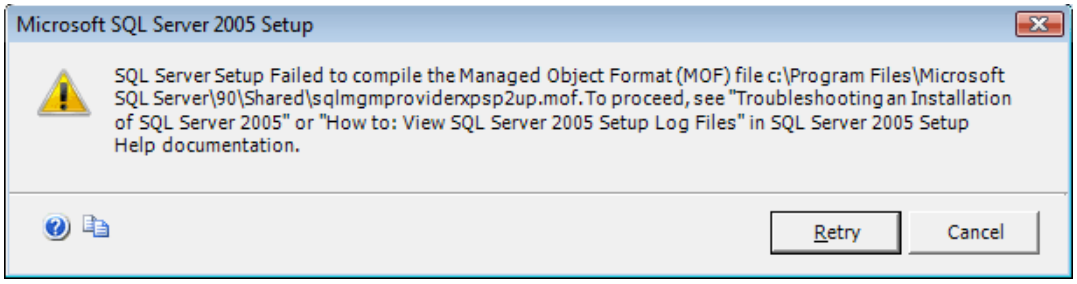
One of the main installation points is to establish the SQL Database Server where you want to create the said database. We can use any server that is already defined in our machine or on one of the machines of the local network. In the event that you do not have a local server installed or you do not wish to use any remote one on the local network, the application allows you to install the free local server SQL Server Express 2005.


Question
SQL Sever was no detected in your computer. However, accessible sql server instances were found in your domain. Do you want to install SQL Server Express anyway?
Yes
No

Please note that to be able to see and use servers installed on the other machines in our network, we must have previously configured these to accept remote connections. Point 1.1 explains in detail how to enable remote connections in an SQL Server.

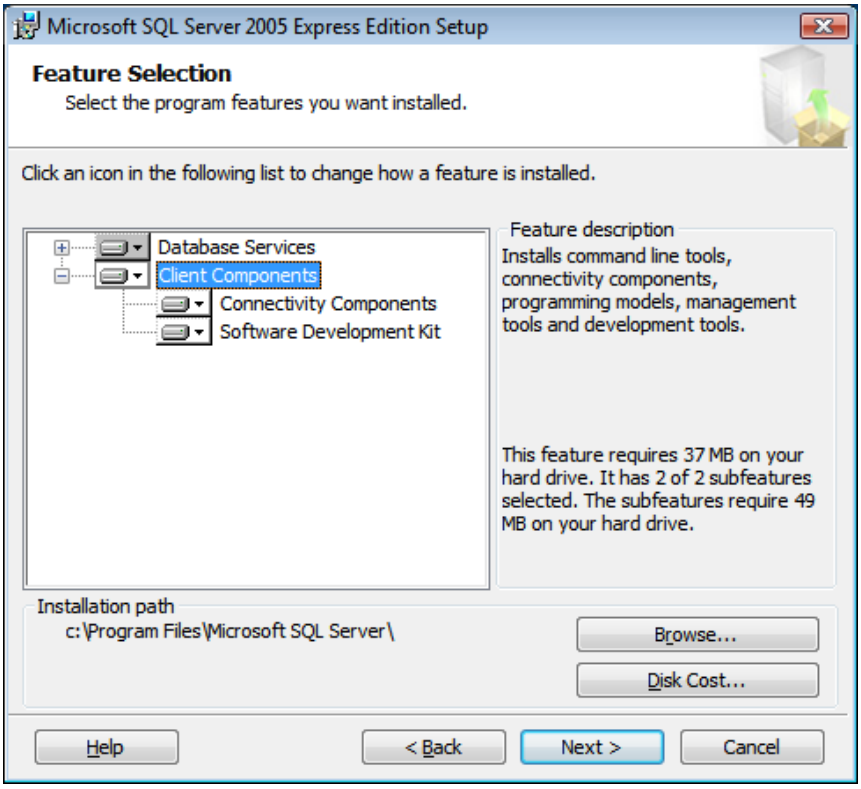
The format of the server names found will always be “machine\instance-server”. If during the installation no SQL Server is detected, the wizard will allow you to install the free SQL Server Express 2005 version.

If we are installing SQL Data Export on a Windows Vista or Windows XP "operating system" it is possible that the SQL Server Express installation may malfunction as these come with certain internal modules that are not properly compiled. If this occurs we will see the following message:

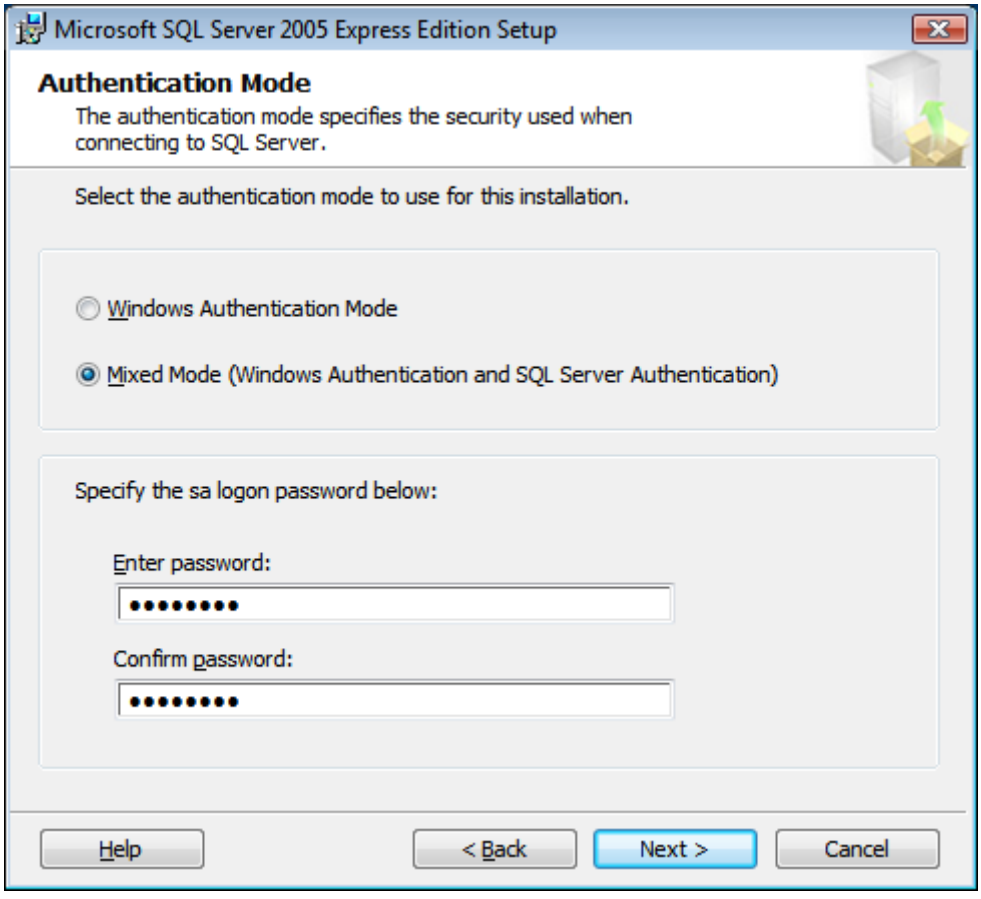

Microsoft SQL Server 2005 Setup
SQL Server Setup Failed to compile the Managed Object Format (MOF) file c:\Program Files\Microsoft SQL Server\90\Shared\sqlmgmproviderxpsp2up.mof. To proceed, see "Troubleshooting an Installation of SQL Server 2005" or "How to: View SQL Server 2005 Setup Log Files" in SQL Server 2005 Setup Help documentation.
Retry
Cancel

To fix this problem, perform the following steps:

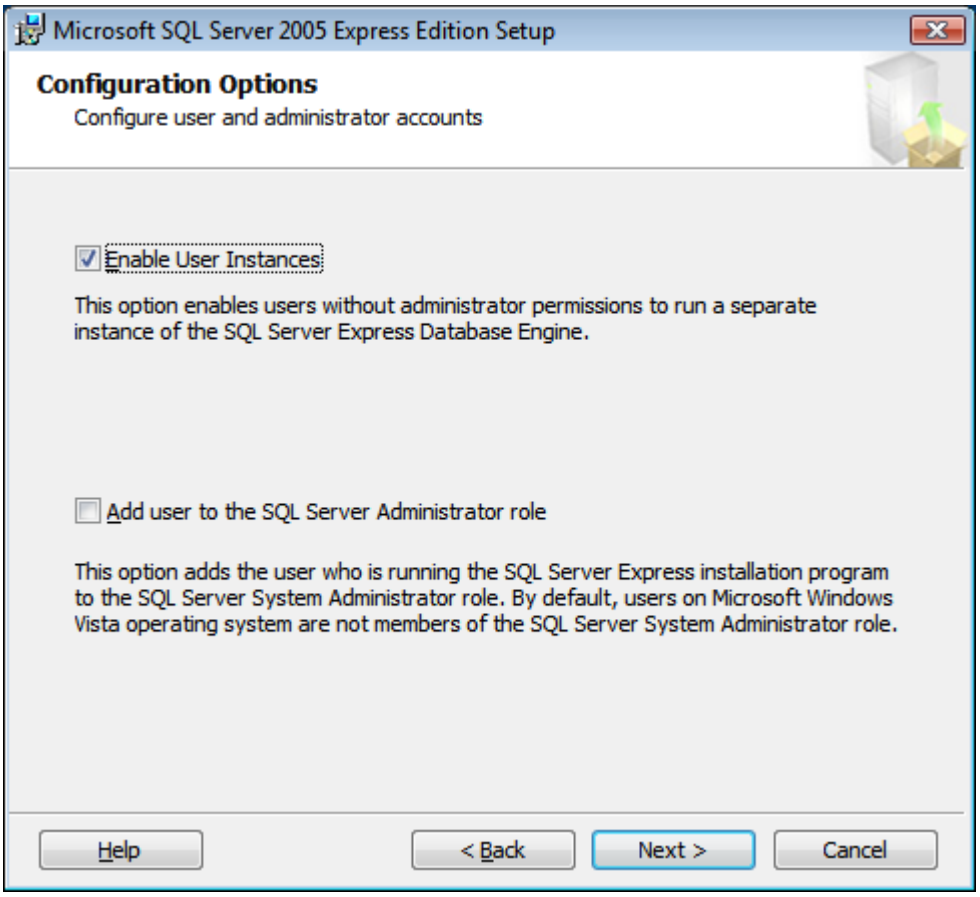
1. Open the command line as Administrator. (Start→Programs→Accessories→System console, click the right mouse button and the select option "Run as... Administrator").
2. Write “winmgmt /verifyrepositor” and press enter.
3. If it says that the repository is incoherent write “net stop winmgmt” and press enter.
4. Next run: “winmgmt /salvagerepository”.
5. When it ends after 2 or 3 minutes, we will be able to install SQL Server Express without any problem.


Microsoft SQL Server 2005 Express Edition Setup
Feature Selection
Select the program features you want installed.
Click an icon in the following list to change how a feature is installed.
Database Services
Client Components
Connectivity Components
Software Development Kit
Feature description
Installs command line tools, connectivity components, programming models, management tools and development tools.
This feature requires 37 MB on your hard drive. It has 2 of 2 subfeatures selected. The subfeatures require 49 MB on your hard drive.
Installation path
c:\Program Files\Microsoft SQL Server\
Browse...
Disk Cost...
Help
< Back
Next >
Cancel

To configure SQL Server Express properly we must select the “Mixed mode” option on the “Authentication mode” screen and set the password to “SqlDE236”, to start the session for user sa:


Microsoft SQL Server 2005 Express Edition Setup
Authentication Mode
The authentication mode specifies the security used when connecting to SQL Server.
Select the authentication mode to use for this installation.
Windows Authentication Mode
Mixed Mode (Windows Authentication and SQL Server Authentication)
Specify the sa logon password below:
Enter password:
Confirm password:
Help
< Back
Next >
Cancel

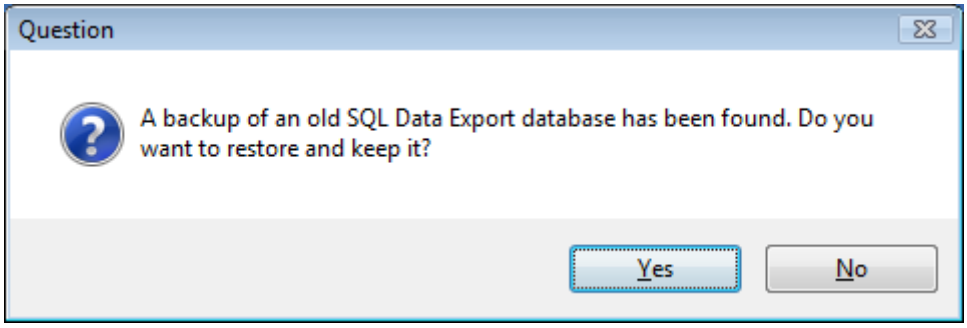
On the next “Configuration options” screen leave the "Enable user instances” checkbox selected:


Microsoft SQL Server 2005 Express Edition Setup
Configuration Options
Configure user and administrator accounts
Enable User Instances
This option enables users without administrator permissions to run a separate instance of the SQL Server Express Database Engine.
Add user to the SQL Server Administrator role
This option adds the user who is running the SQL Server Express installation program to the SQL Server System Administrator role. By default, users on Microsoft Windows Vista operating system are not members of the SQL Server System Administrator role.
Help
< Back
Next >
Cancel

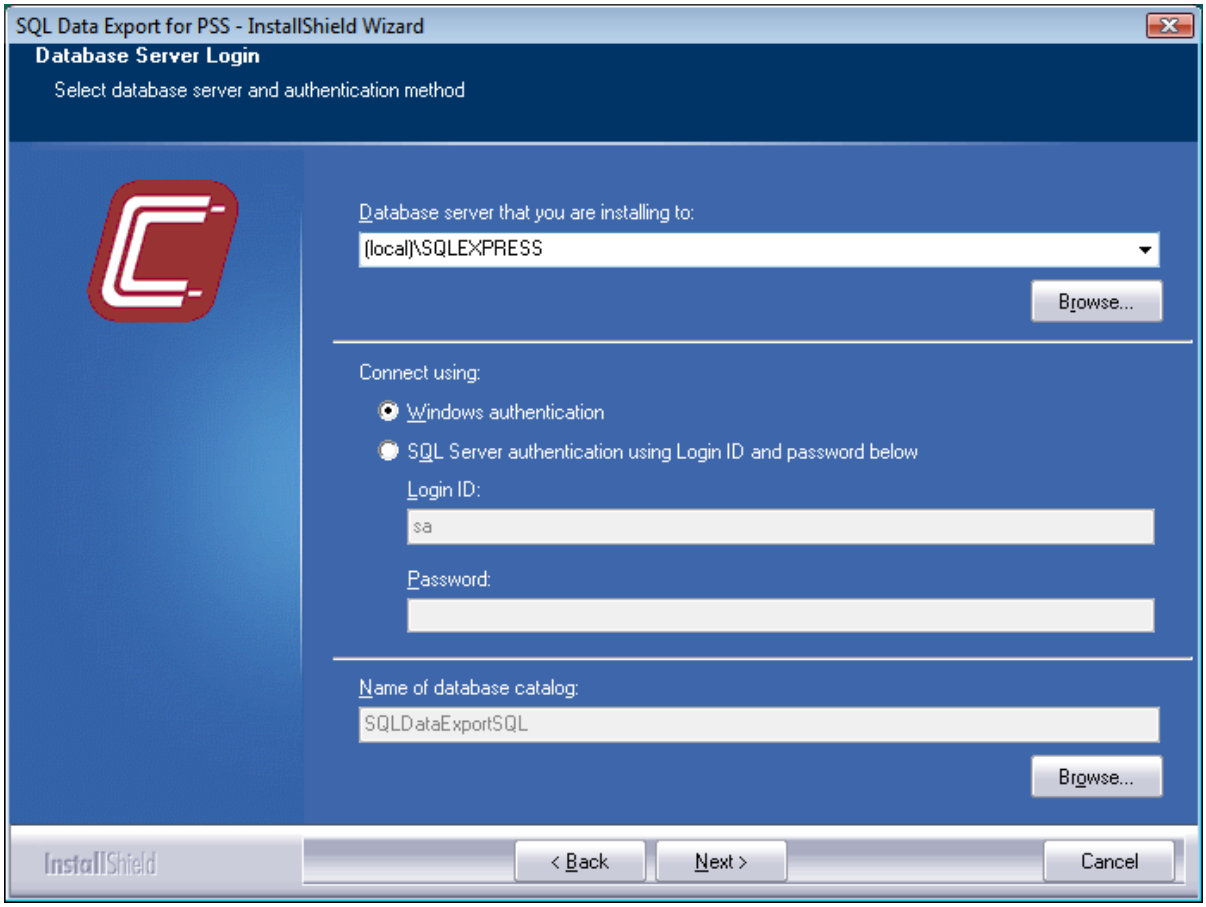
It is most important to set these values properly for the application to work correctly.

In the Windows Vista operating system it is recommended to select the ‘Add user to the SQL Server Administrator function’ option.

Once the installation process of the SQL Server has been completed, if any copy of the SQL Data Export application database is found, we will be given the option of adding it to the SQL Server.

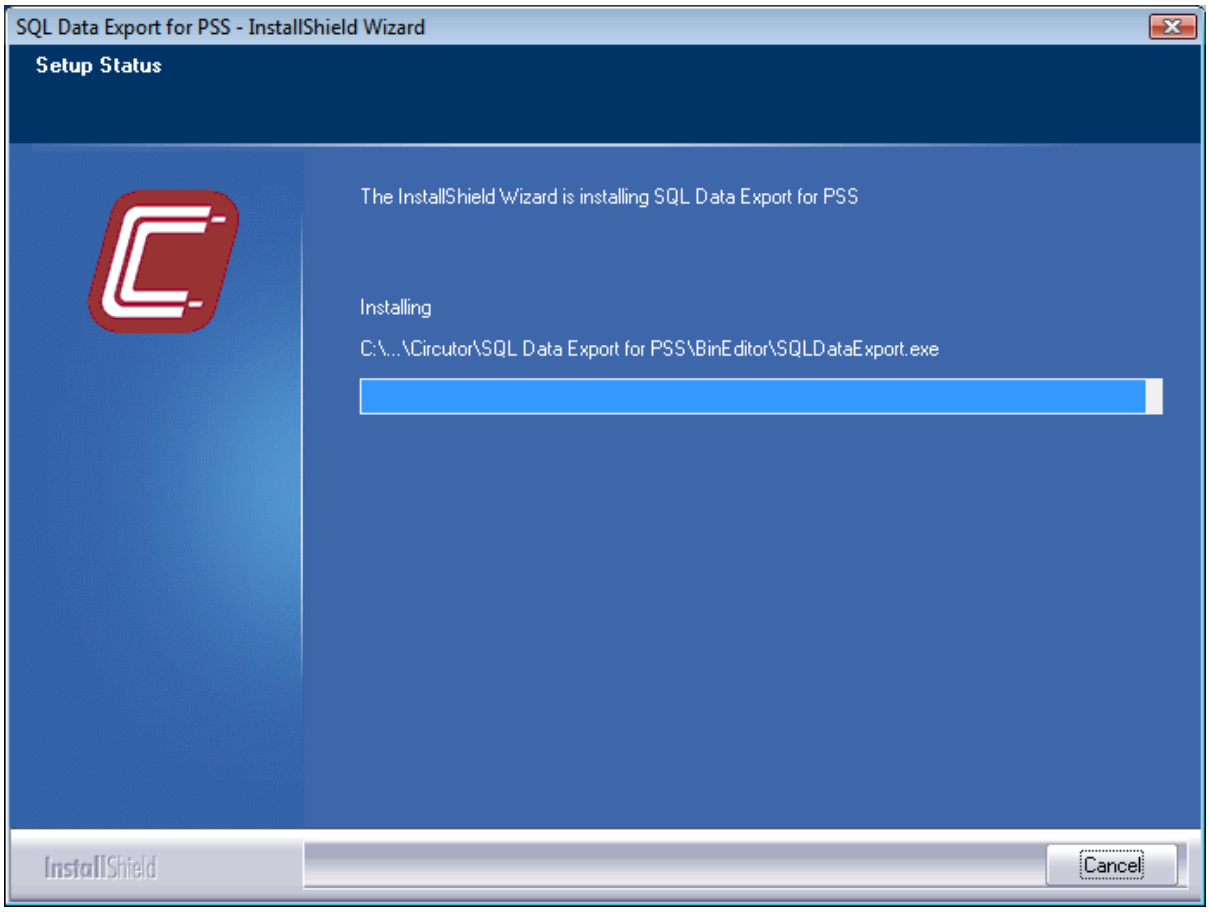


Next, the selection screen for the SQL Server to be used will be displayed, where we can obtain all the accessible servers with the Browse button:



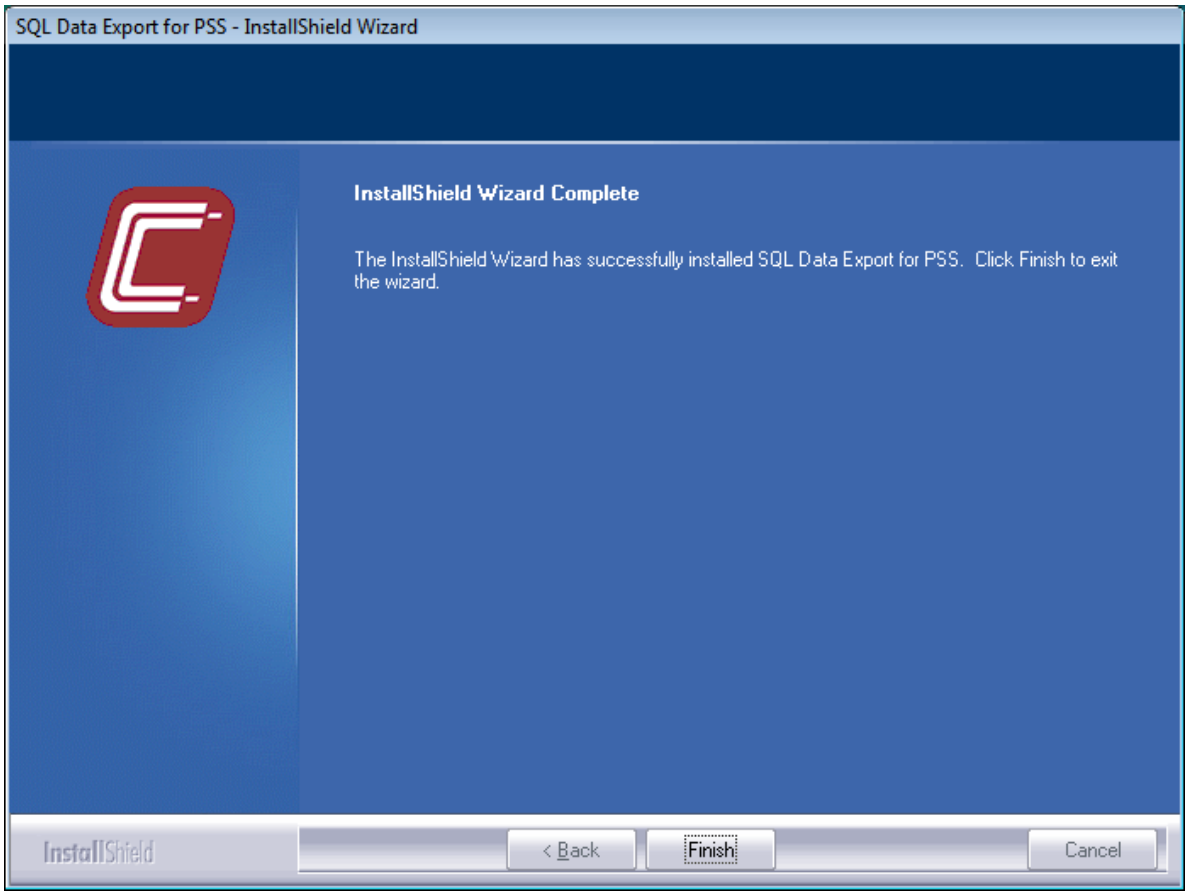
Selection of the SQL Server

After all this process, file copying will finally start, which we will see from the progress bar:


SQL Data Export for PSS - InstallShield Wizard
Setup Status
The InstallShield Wizard is installing SQL Data Export for PSS
Installing
C:\...\Circutor\SQL Data Export for PSS\BinEditor\SQLDataExport.exe
InstallShield
Cancel

Installation progress bar

As you can see the installation process can still be cancelled while the files are being copied, although it is advised to wait until the installation has been completed and if necessary proceed to uninstall it.


SQL Data Export for PSS - InstallShield Wizard
InstallShield Wizard Complete
The InstallShield Wizard has successfully installed SQL Data Export for PSS. Click Finish to exit the wizard.
InstallShield
< Back
Finish
Cancel

Finally, if everything has been completed correctly, the installation process will finish, returning the operating system to its idle state, after which you may run SQL Data Export from the start menu.

Note 1: *It is possible that the installation program may require a reboot for the changes to be effective. In this case, you will see a warning message and it is recommended not to SQL Data Export before having rebooted.*

Note 2: *Depending on the configuration of your computer, it is possible that the installation will need to access the Internet to update certain files, for example to update the .NET Framework version. It is recommended that you have an Internet connection enabled on your computer.*

Note 3*: If you have problems connecting to the server (local)\SQLEXPRESS change the server name to 'machine\SQLEXPRESS' where machine is the name of your computer within the local area network. In Windows 2000 operating systems it is possible that in the SQL server name only (local) appears, in this case change the name to (local)\SQLEXPRESS.*

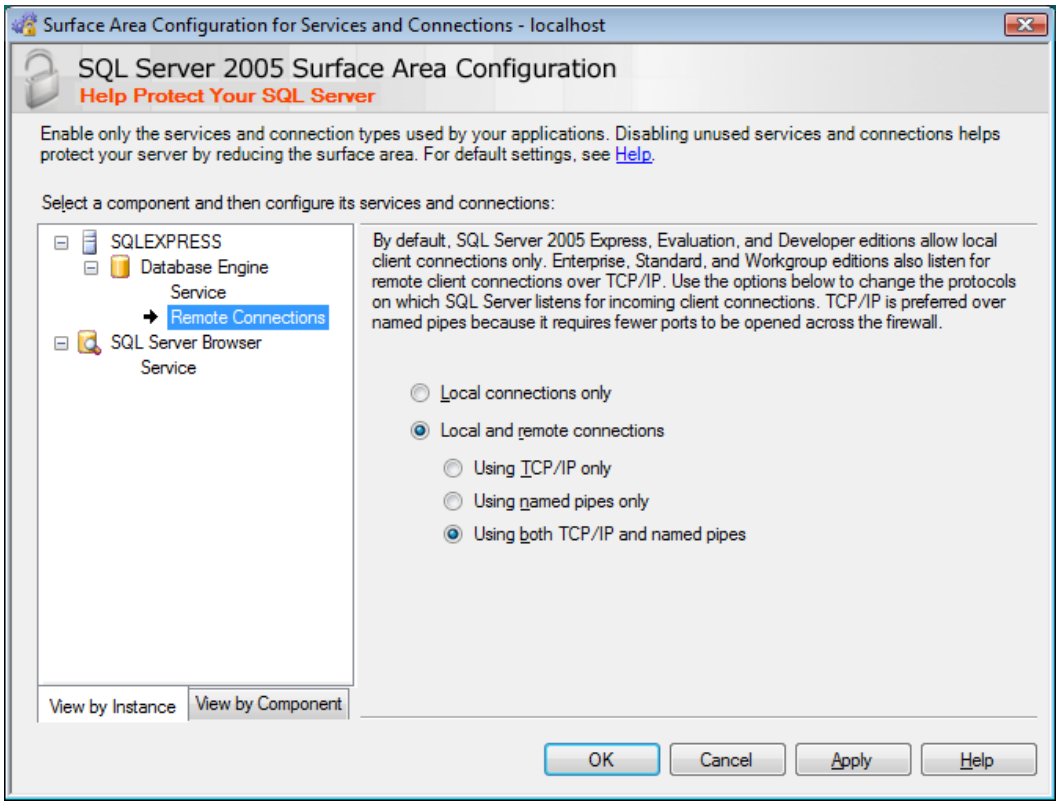
After having rebooted your computer, SQL Data Export will be installed on your computer and you can run it from the **Start** menu.

1.1.- Enable remote connections of the SQL Server

To connect to a database server installed on a machine other than the one where we have installed the application, you will need to configure SQL Server for it to accept the connection. Perform the following steps:

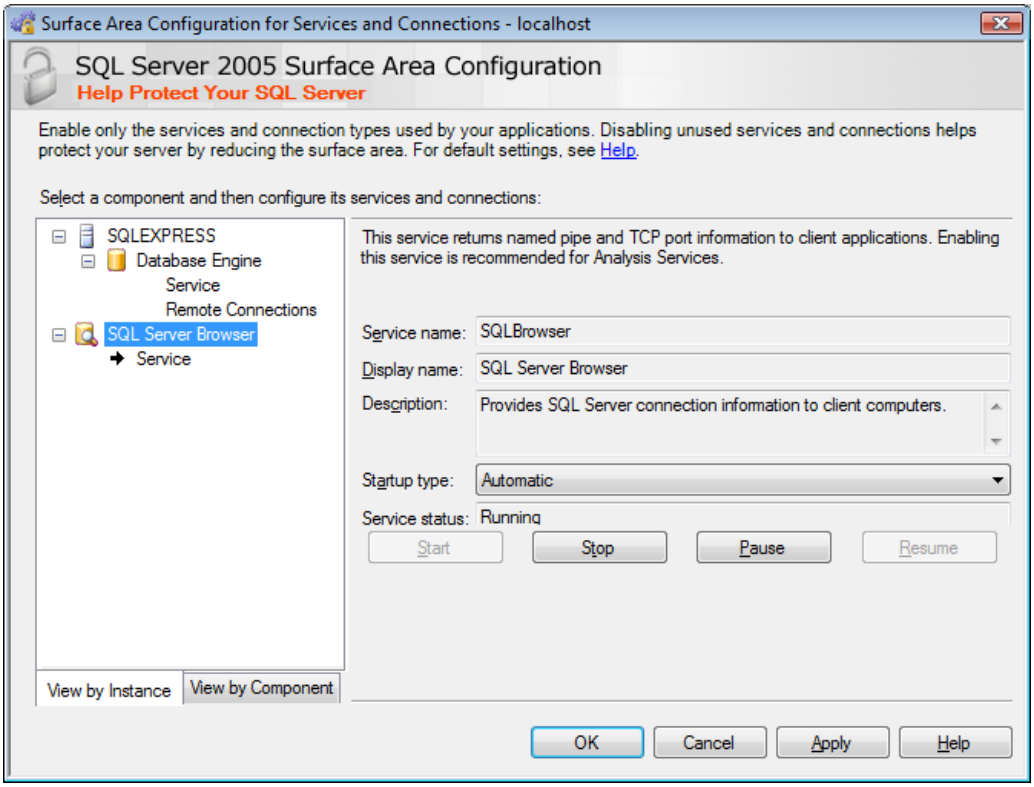
1. Enable remote connections in the SQL Server instance to which you wish to connect from the remote machine.

   - Click on "Start → Programs → Microsoft SQL Server 2005 → Configuration tools → SQL Server surface configuration".
   - In Surface configuration of SQL Server, select the surface configuration option for services and connections.
   - Expand the option "Database Engine → Remote connections" and select local and remote connections and the TCP/IP protocol and channelling by name
   - Click on service, click on Stop, wait until it stops and the click on Start to restart the service.
   -


Surface Area Configuration for Services and Connections - localhost
SQL Server 2005 Surface Area Configuration
Help Protect Your SQL Server
Enable only the services and connection types used by your applications. Disabling unused services and connections helps protect your server by reducing the surface area. For default settings, see Help.
Select a component and then configure its services and connections:
SQLEXPRESS
Database Engine
Service
Remote Connections
SQL Server Browser
Service
By default, SQL Server 2005 Express, Evaluation, and Developer editions allow local client connections only. Enterprise, Standard, and Workgroup editions also listen for remote client connections over TCP/IP. Use the options below to change the protocols on which SQL Server listens for incoming client connections. TCP/IP is preferred over named pipes because it requires fewer ports to be opened across the firewall.
Local connections only
Local and remote connections
Using TCP/IP only
Using named pipes only
Using both TCP/IP and named pipes
View by Instance
View by Component
OK
Cancel
Apply
Help

2. Activate the SQL Server browser service.

   - Click on "Start → Programs → Microsoft SQL Server 2005 → Configuration Tools → SQL Server surface configuration".
   - In Surface configuration of SQL Server, select the surface configuration option for services and connections.
   - Expand the option SQL Server Browser and select automatic start mode, apply the changes and click on Start.


Surface Area Configuration for Services and Connections - localhost
SQL Server 2005 Surface Area Configuration
Help Protect Your SQL Server
Enable only the services and connection types used by your applications. Disabling unused services and connections helps protect your server by reducing the surface area. For default settings, see Help.
Select a component and then configure its services and connections:
SQLEXPRESS
Database Engine
Service
Remote Connections
SQL Server Browser
Service
This service returns named pipe and TCP port information to client applications. Enabling this service is recommended for Analysis Services.
Service name: SQLBrowser
Display name: SQL Server Browser
Description: Provides SQL Server connection information to client computers.
Startup type: Automatic
Service status: Running
Start
Stop
Pause
Resume
View by Instance
View by Component
OK
Cancel
Apply
Help

3. Configure the Windows firewall (this step is usually not necessary)

   - Create an exception for SQL Server:

     1. In Windows Firewall, click on the exceptions tab and then click on Add program.
     2. In the Add program window, click on Browse.
     3. Locate the "…\MSSQL.X\MSSQL\Binn\sqlservr.exe" executable program in the folder where MS SQL Server is installed, click Open, then click OK.
     4. Repeat steps 1 to 3 for each instance of SQL Server 2005 that requires an exception.

   - Create an exception for SQL Server Browser:

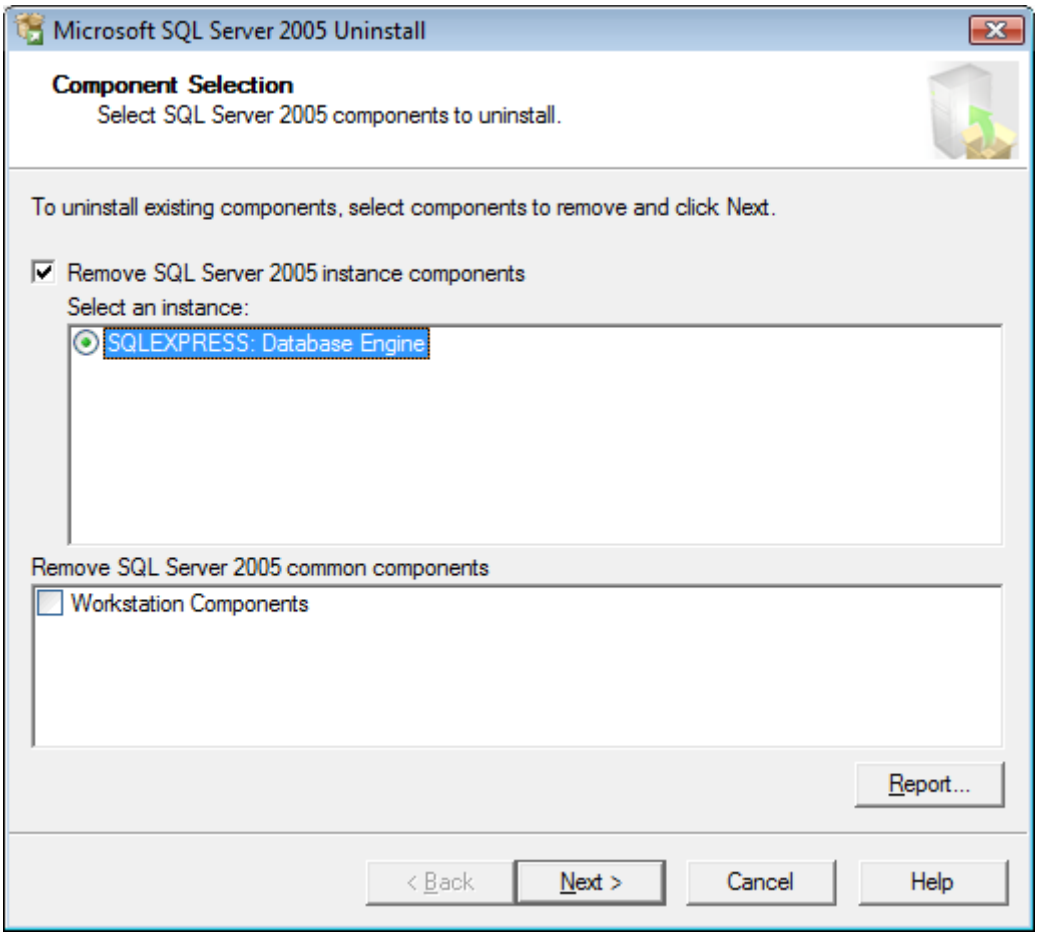
     1. In Windows Firewall, click on the exceptions tab and then click on Add program.
     2. In the Add program window, click on Browse.

3. Locate the "…\90\Shared\sqlbrowser.exe" executable program in the folder where MS SQL Server is installed, click Open, then click OK.

1.2.- Uninstall SQL Server

If for any reason it is necessary to uninstall the local SQL Server Express 2005, follow these steps:

1. From the Windows control panel in Add and Remove Programs, uninstall "Microsoft Sql Server 2005". Select the option "Remove components of the SQL Server 2005 instance" and "SQLEXPRESS: Database engine".


Microsoft SQL Server 2005 Uninstall
Component Selection
Select SQL Server 2005 components to uninstall.
To uninstall existing components, select components to remove and click Next.
Remove SQL Server 2005 instance components
Select an instance:
SQLEXPRESS: Database Engine
Remove SQL Server 2005 common components
Workstation Components
Report...
< Back
Next >
Cancel
Help

2. From the Windows control panel in Add and Remove Programs, uninstall "Microsoft Sql Server Native Client".

2.- Introduction to SQL Data Export

SQL Data Export is an automatic system for exporting the variables of the devices stored in PSS and facilitates:

- The downloading of variables for the devices added to PSS
  - Select the device from which you would like to download the variables and the variables that will be downloaded.
  - The programming of downloads every so often.

The application includes two parts similar to PSS:

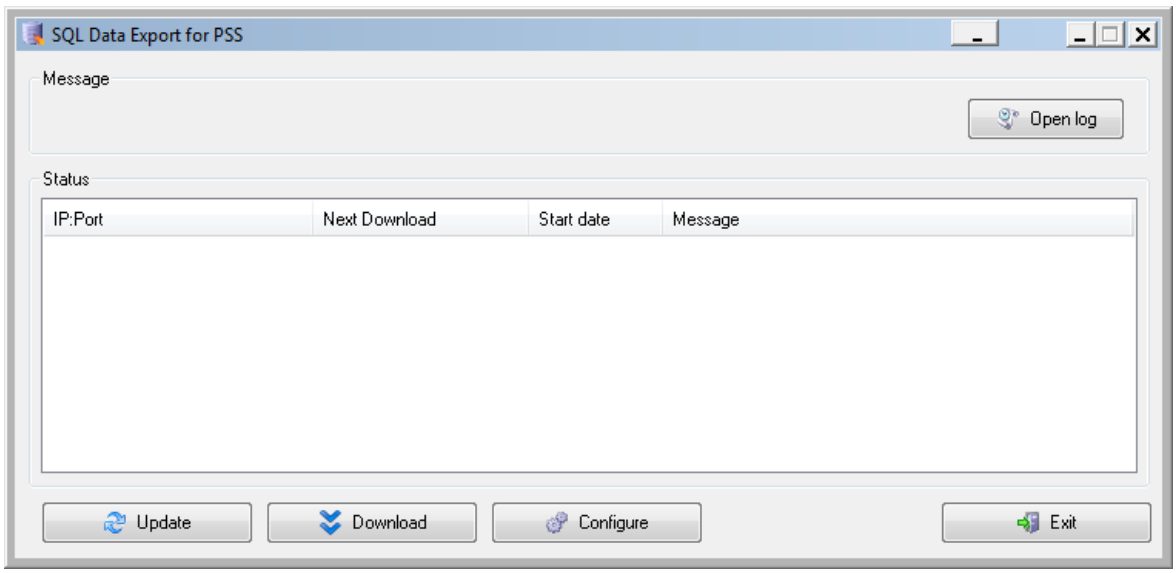
Graphic interface: Allows the application to be configured by adding PSS engines along with their devices and download schedules.

Service: Allows the variables for the configured devices to be downloaded from the graphic interface to the database.

***Important note**: You must run the graphic interface as an administrator in the operating systems that need it like Windows Vista, Windows 7 or higher to have the required privileges for proper operation.*

2.1.- Graphic interface

Once the presentation screen appears you can click with the left mouse button or wait a few seconds. If the application detects that the hasp key with the SQL Data Export code is not connected, the application will shut down. Before closing, the hasp key will be checked up to three times to obtain the option to connect the key. If the key is connected, the following screen will appear and the program will be ready for use.



Main screen

From this screen the following actions can be performed:

Update: This button allows the statuses for each engine added to the list to be refreshed. There are three statuses which are indicated by an icon:

- : active engine, the application is waiting for the date of the next download.
- : engine not connected, the application was unable to connect to the PSS engine because it is stopped or for some other reason.
- : downloading application, the application is downloading the PSS engine data to the database.

Download: This button forces the immediate downloading of all the active engines in the list.

Configure: This button allows you to add, edit and delete the PSS engines in the application.

Exit: This button allows you to close the graphic interface without stopping the service.

Open log: This button opens the "*log_yyyyMM.txt*" file which is located in "C:\Documents and Settings\All Users\Program data\Circutor\SQL Data Export\" or in a similar path depending on the operating system. A log of the actions and incidents detected by the application are saved in this file.

Moreover, a descriptive message if the configuration has failed is displayed in the "Message" field.

Further down, in the list of PSS engines added, you can see the following columns:

IP:Port: address at which the PSS engine is located.

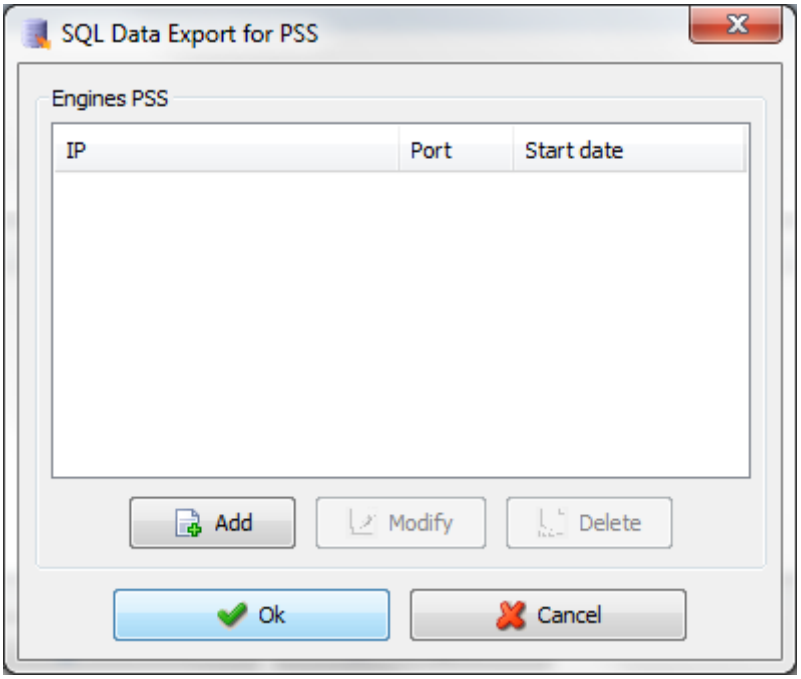
Next download: next time data will be downloaded from this engine.

Start date: Date when the data will start to be downloaded from the PSS search engine.

Message: explanatory message on this engine, for example, that the next download time has not been defined.

Once the components of the main screen have been explained, the first step will be to configure the application by adding the IP address and the port for the PSS engines so that the application can connect to these engines.

The following dialogue box will appear when you click "Configure":

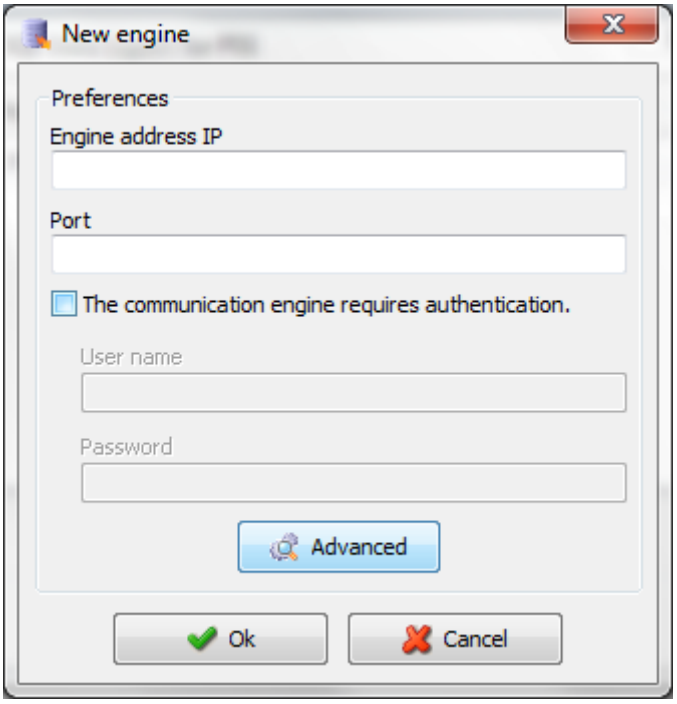


From this dialogue box you can add, modify and delete PSS engines.

To edit an engine you must select it and click on the "Modify" button or double click on the selected engine.

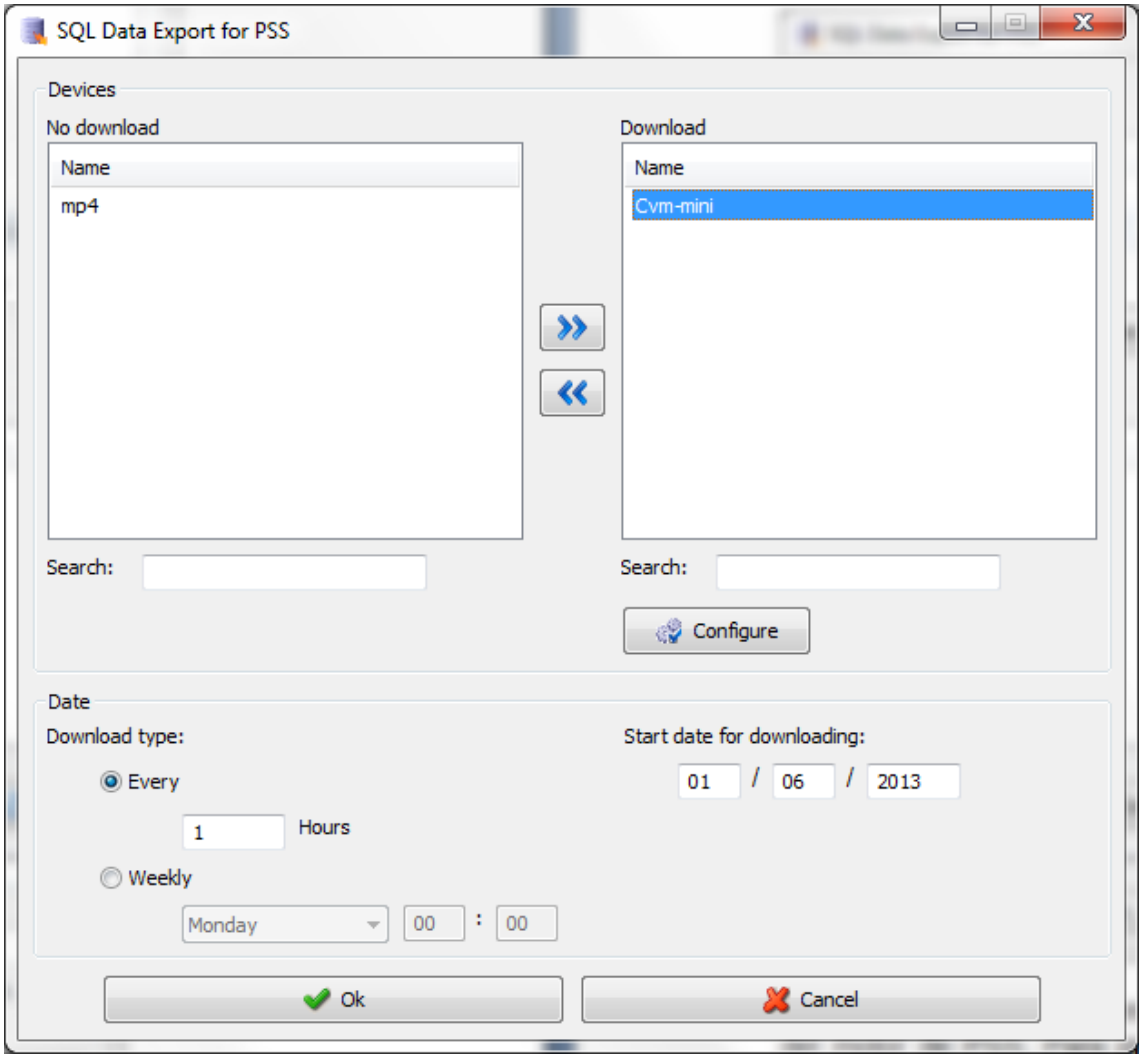
To delete an engine, you must select it and click on the "Delete" button or press the "Delete" key on the keyboard.

The following dialogue box will appear when you click "Add" or press the "Insert" key on the keyboard:



In this dialogue box, we can add the fields for the new engine such as the IP address and port. If the PSS engine has authentication activated, the username and password fields must be filled in for a valid user in this engine.

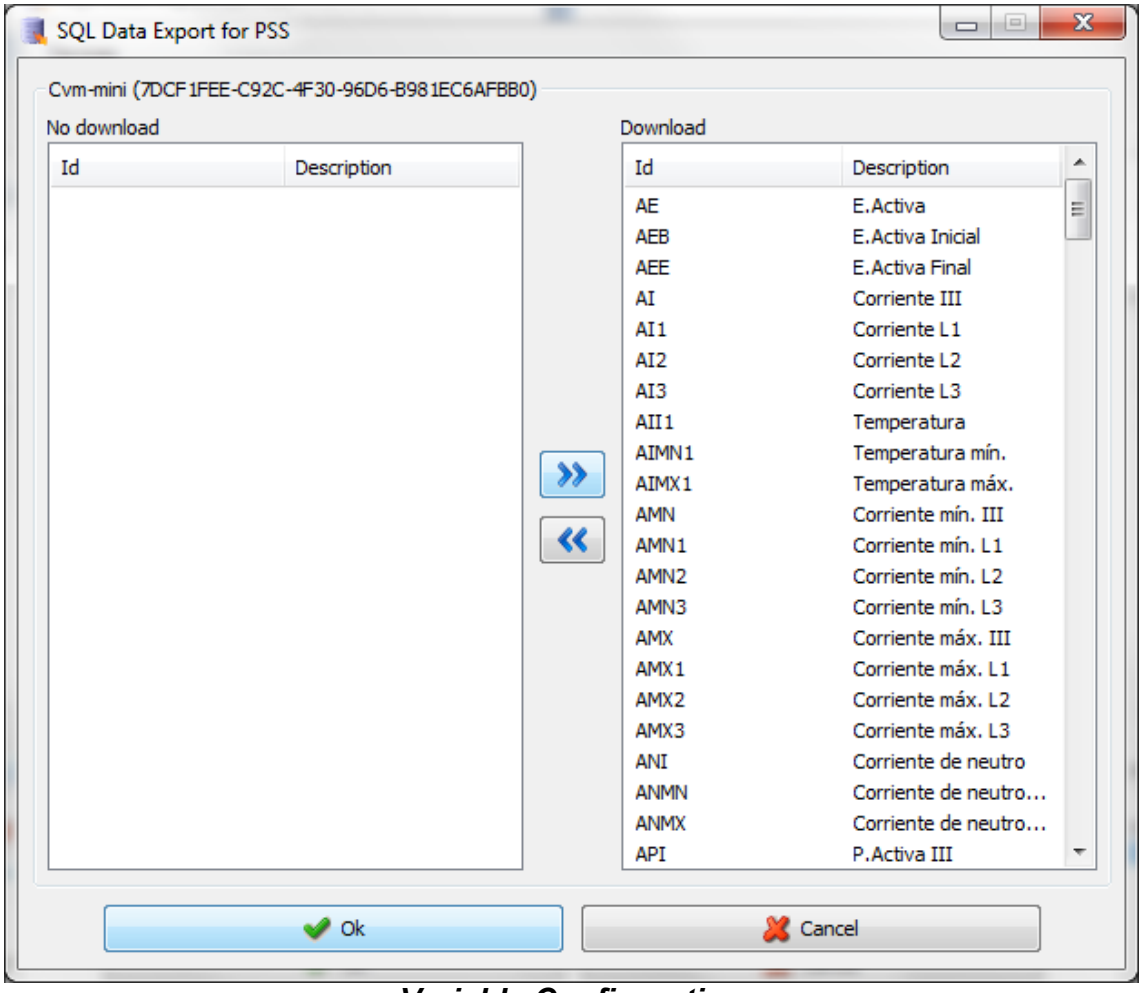
If you press the "Advanced" button, we can select from which devices the data will be downloaded to the database and the frequency at which these data will be downloaded.



Initially, in the list on the left, we will have all the devices for the PSS engine. To program the download of all the variables of a device, it must be selected and sent to the list of devices to download by double-clicking with the mouse or by using the button. To not download the variables of a device, simply move it over to the list on the left. More than one device can be selected with the mouse, so it is sent together to a different list.

Assign a start date, i.e., when the data will start to be downloaded. This date can not be edited later on and will be common for all devices that use this search engine.

The variables downloaded for a specific device can be configured by selecting a device from the "Download" list.



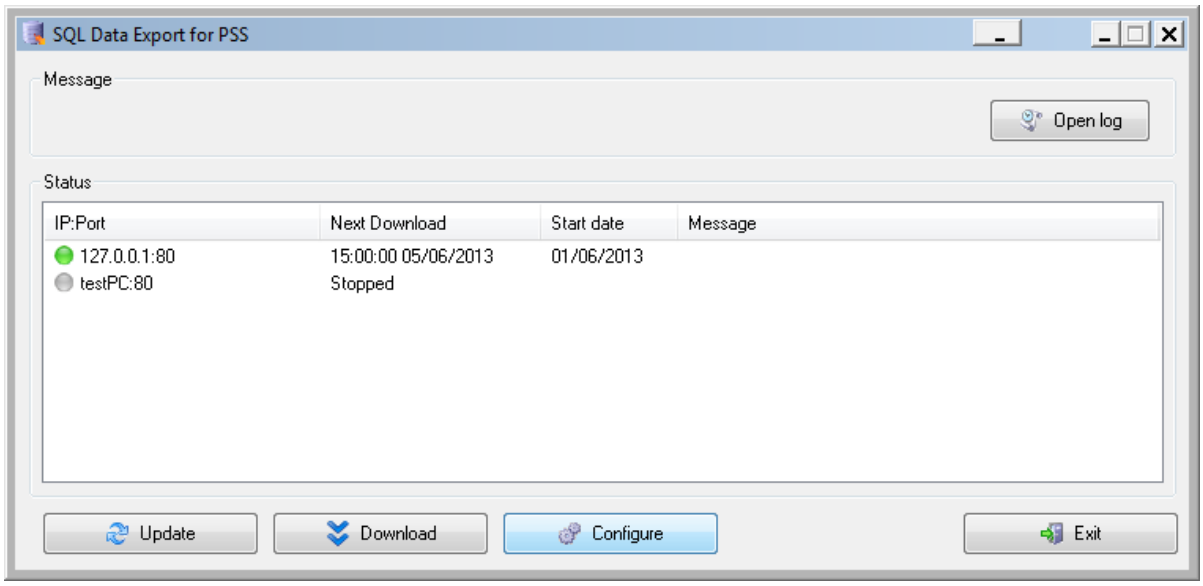
Variable Configuration

By default, the first time a device is selected to download, application will also add all its variables to download.

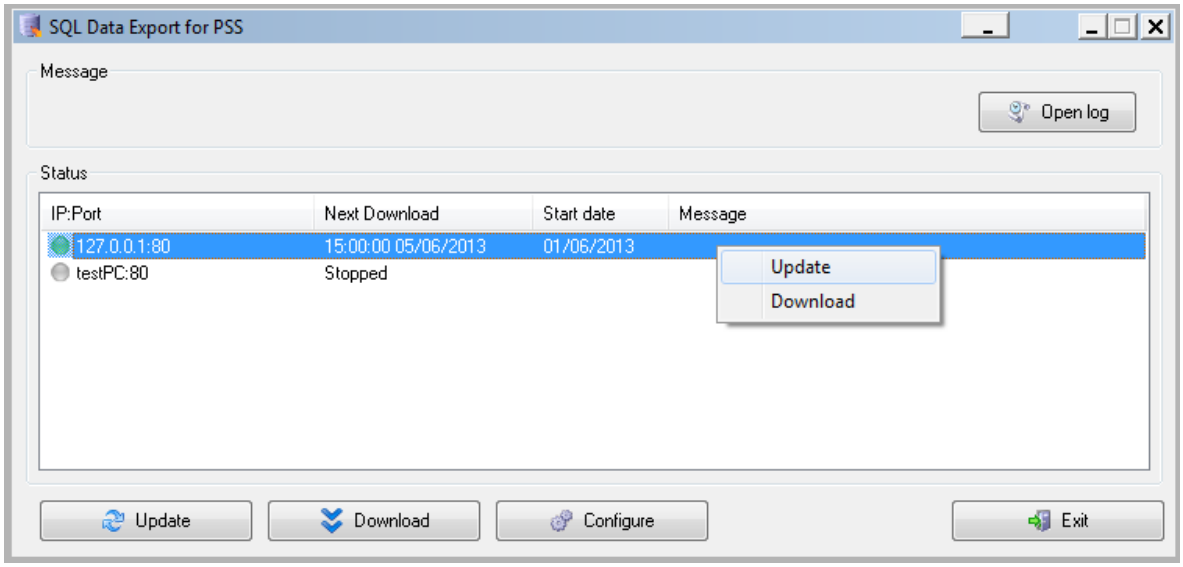
Important Note: Click on OK to temporarily store the setup after the variables that will be downloaded have been configured on the ***Variable setup*** screen (the setup can be cancelled or modified later on). Return to the ***main screen*** by clicking on OK on each screen. The setup will then be permanently saved until a new setup is configured. The changes on this screen will not be saved if you return to the ***variable configuration*** screen of this device directly before returning to the ***main screen***.

Note 1: The values already downloaded in the database will not be deleted never even though the device is moved to the no-download list or the device is deleted from the engine.

Note 2: Only the devices and variables of the PSS engine to which the application is connected will be displayed in the lists.



If there are engines in the list we can update their status or force the immediate download of a specific engine by selecting it and right clicking with the mouse.



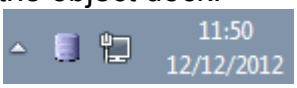
When the date of the next download arrives, the application will perform the download and the download icon will be shown with its text until the download has been completed, at which point the application will return to the pending status, awaiting the next download and displaying the next date. This is the case with each engine in the list.

***Note**: The downloads will only be performed if the user in not in the setup screens. In the event that any setup screen is displayed, the application will not perform any downloads until you return to the main screen or exit the graphic interface.*

***Note 1**: If the application has been unable to connect to the engine or the download dates have not been configured, the application will not perform any download from this engine.*

***Important note**: You must go to the configuration dialogue box if new devices have been added which are linked to other devices, e.g. a CVM96 linked to devices such as an R440, CIREOS or EDS, so that the variables for the CVM96 can be added to the table for the R440, CIREOS or EDS and the values of the CVM96 variables can be downloaded.*

If the upper left-hand button of the application window is pressed, the software will be minimised to the object dock.



This icon has 3 statuses:

- : all the engines are active, the application is awaiting the date of the next download.
- : a engine is not communicating, the application has not been able to connect to this engine but will download the active engines.
- : application downloading, the application is downloading the data from a engine to the database.

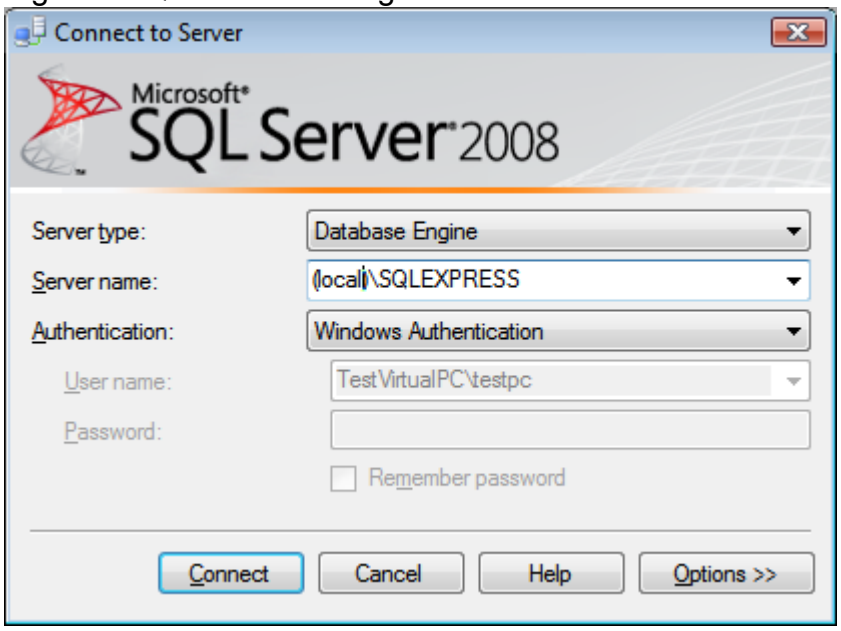
If you double click with the left button on the icon you will return to the main screen for the graphic interface.

3.- Appendices

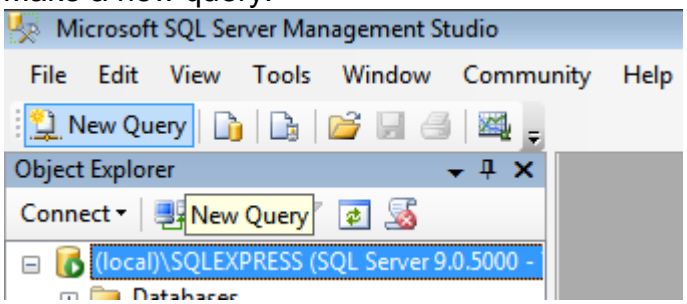
3.1.- Change the location of the database

Do the following steps to change the location of the database:

1. Uninstall "SQL Data Export for PSS".
2. Sign in "SQL Server Management Studio".

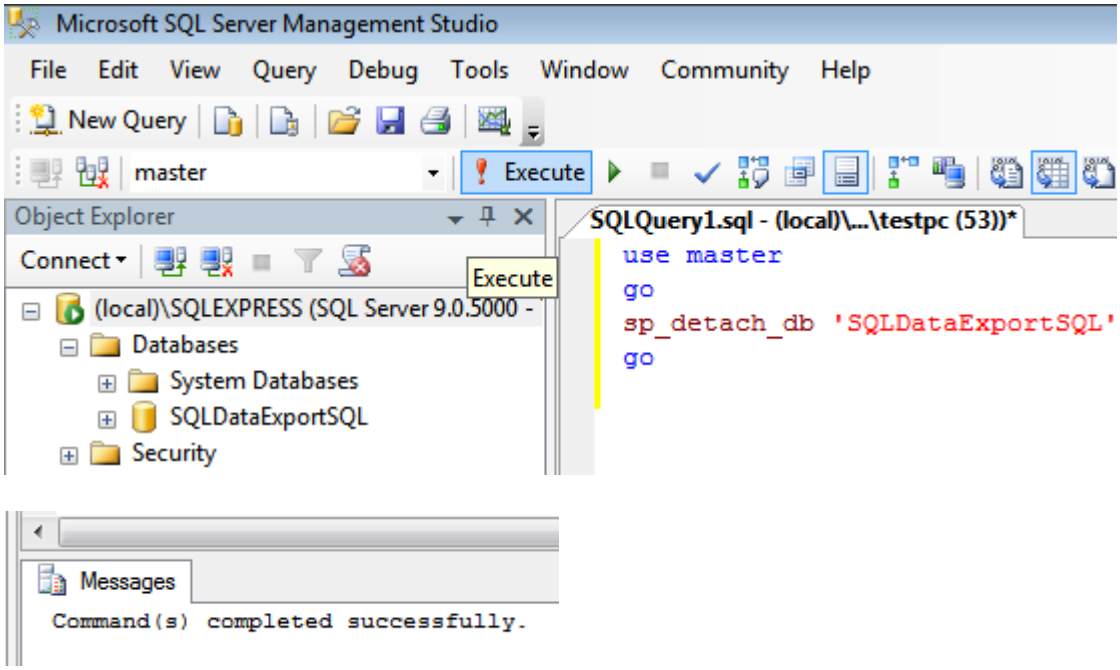


3. Make a new query:



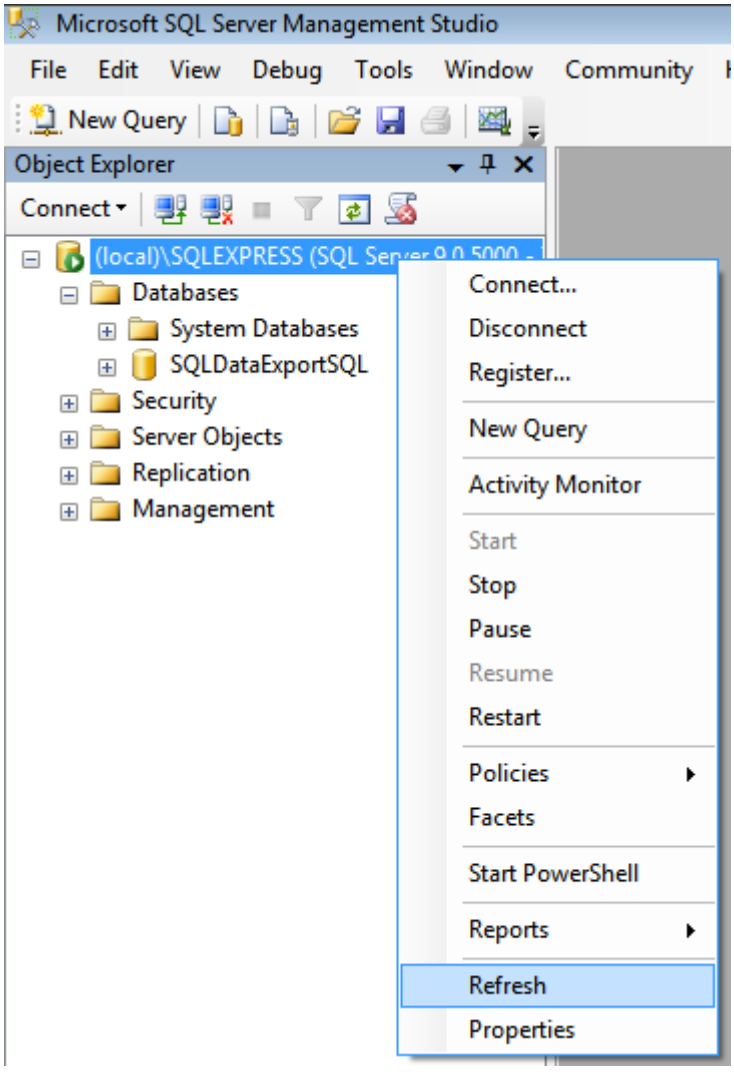
4. Run the following script:

```
use master
go
sp_detach_db 'SQLDataExportSQL'
go
```


Microsoft SQL Server Management Studio
File Edit View Query Debug Tools Window Community Help
New Query
master
Execute
Object Explorer
Connect
Execute
(local)\SQLEXPRESS (SQL Server 9.0.5000 -
Databases
System Databases
SQLDataExportSQL
Security
SQLQuery1.sql - (local)\...\testpc (53))*
use master
go
sp_detach_db 'SQLDataExportSQL'
go

Messages
Command(s) completed successfully.

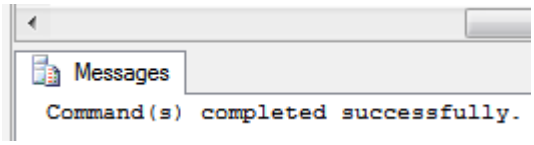
5. Refresh


Microsoft SQL Server Management Studio
File Edit View Debug Tools Window Community
New Query
Object Explorer
Connect
(local)\SQLEXPRESS (SQL Server 9.0.5000 -
Databases
System Databases
SQLDataExportSQL
Security
Server Objects
Replication
Management
Connect...
Disconnect
Register...
New Query
Activity Monitor
Start
Stop
Pause
Resume
Restart
Policies
Facets
Start PowerShell
Reports
Refresh
Properties

6. Move the files "SQLDataExportSQL.mdf" and "SQLDataExportSQL_log.LDF" to destination.

7. Make a new query:
8. Run the following script with new path where you have located the database, for example D:\.

```
use master
go
sp_attach_db 'SQLDataExportSQL','D:\SQLDataExportSQL.mdf','D:\SQLDataExportSQL_log.LDF'
go
```



9. Refresh
10. Install "SQL Data Export for PSS".

3.2.- Structure of the database

The database is basically comprised of three types of tables:

- **Devices table**. A single table where we will store the information on the devices
- **Variables table**. Single table where we will store the information on the different variables contained in the devices
- **Values table**. There is a values table for each of the devices from which data are downloaded. In addition, a device may have more than one values table, precisely, it will have a values table for each variable type (STD, WATT, SUC, CLW,…) the device has.

Devices table:

- Table name: <IP>:<PORT>_Devices (e.g. 127.0.0.1:80_Devices)
- Fields:
  - **id**: Single device identifier. Main key field of the table
  - **name**: Name of the device.
  - **description**: Brief description of the device.
  - **class**: Device type.
  - **download**: Y/N type filed to indicate whether this device must be downloaded or not. By using this field it will be possible for the client to temporarily disable the downloading of values from a device, without losing the data that has already been downloaded.
  - **obsolete**: Y/N type field, will only be Y (true) when the device is removed from the PSS engine, thus the data already downloaded will be retained for future use

Variables table:

- Table name: <IP>:<PORT>_Variables (e.g. 127.0.0.1:80_Variables)
- Fields:
  - **idDevice**: Identifier of the device to which the variable belongs, will correspond to the id field of the devices table. Main key field of the table
  - **id**: Identifier of the variable, for example VI1. Main key field of the table
  - **description**: Brief description of the variable.
  - **type**: Variable type. Using this field one can differentiate which variables go in each of the different devices values tables.
  - **units**: Units in which the value of the variables are expressed.
  - **format**: Format of the variable (integer, double, date, …).

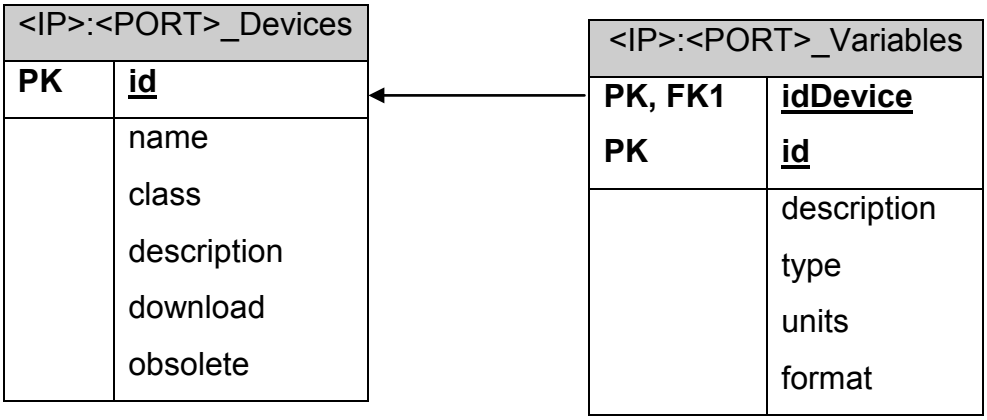
Values table:

There is a values table for each of the variable types that a device contains.

- Table name: <IP>:<PORT>_<idDevice>.<type> (e.g. 127.0.0.1:80_F91FBB31-8587-4253-AC9E-93D354112B57.STD)

For the table name the device id will be used (corresponding to the id field of the device table) and the variables type that the file contains (corresponding to the type field of the variables table).
By using the device id field instead of the name, treatment will be facilitated when a user changes the device name, as the id field is unique and does not change once created.

- Fields. The fields of the table will depend on the type of variables that they contain. For example, for an STD type, the fields will be:
  - **dateTime**: Date and time of the record in CUT. Main key field of the table
  - **dateTimeLocal**: Date and time at local time of the PC where the application is installed.
  - **idVariable1**: Identifier of the first variable stored, corresponding to the id field in the variables table
  - **…**
  - **idVariableN**: A field will be created for each of the STD type variables that the device contains



<IP>:<PORT>_<idDevice>.<type>	
PK	**dateTime**
	dateTimeLocal
	VI1
	VI2
	…